

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

A NEW FUR-SEAL OR SEA-BEAR (*ARCTOCEPHALUS*
TOWNSENDI) FROM GUADALUPE ISLAND,
OFF LOWER CALIFORNIA.

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During the recent international discussion respecting the seals of Bering Sea, the matter of the distribution of the Northern Fur-seal (*Callorhinus ursinus*) has received closer attention than heretofore, and questions have arisen as to the southernmost range of the species in the past.

It had been known for many years that colonies of fur-seals inhabited parts of Guadalupe and the San Benito Islands, off the coast of Lower California, and these seals were commonly assumed to be the northern species—the same that breeds in such numbers at the Pribilof Islands in Bering Sea. But it seemed to me a violation of the known laws of geographic distribution that a species adapted to the arctic climate and cold waters of Bering Sea, and even there requiring constant fogs to protect it from the feeble rays of the sun, should be able to breed under clear skies on the subtropical islands of Guadalupe and San Benito.

During the sessions of the Bering Sea Joint Commission, in February and March, 1892, I made bold to express the opinion that the fur-seal which breeds on these islands would prove to be, not the northern species belonging to the genus *Callorhinus*, but a southern species belonging to the genus *Arctocephalus*. No specimens were at hand for examination, but through the cooperation of the Department of State and Fish Commission I was enabled to send a small boat, in direct charge of Mr. C. H. Townsend, on a special mission to Guadalupe Island.

Mr. Townsend sailed from San Diego on May 14, 1892, reached Guadalupe on the 16th, and remained there until the 27th. He

saw seven fur-seals and shot one, which sank before it could be recovered. The trip was made too early in the season to find the seals on shore. A locality was visited where it was known that a large number had been killed a few years previously, and here four skulls were obtained. These skulls were immediately sent to Washington and on their arrival were examined by Dr. J. A. Allen, Dr. Theodore Gill and myself, and proved, as had been suspected, to belong to the genus *Arctocephalus*. A joint note to this effect was published by us in the *Fur-Seal Arbitration, Appendix to the Case of the United States*, vol. I, p. 586, 1892. In the same volume (p. 373) Dr. Allen expresses the belief that the skulls in question represent an undescribed species. The northernmost locality from which the genus had been previously recorded is the Galapagos Islands under the equator, about 2500 miles southeast of Guadalupe.

In his manuscript report on the Guadalupe trip Mr. Townsend states: "Guadalupe Island is thoroughly volcanic and there are caves by the dozen along every mile of the shoreline which were once the retreats of thousands of fur-seals. On the afternoon of May 17 we saw four seals swimming some distance off shore. Two of these we believed to be fur-seals, but could not get within shooting distance, although we tried for an hour. The other two, seen later, were undoubtedly *Zalophus*. No seals whatever were found on the rocks. . . . On May 22 we examined SW Point and the three islands or rocks south of it. On the most southerly rock we found a band of *Zalophus*, about thirty in number, hauled out. There were no fur seals among them. Passing the point, we continued, pulling in the dory, the schooner lying to off shore, up the west side of the island about eight miles, where we anchored. In the evening we visited the spot where Borges and Sisson had killed two or three hundred fur-seals about ten years before. Only a few weather-worn skulls were found, which we gathered for shipment to Washington. The next day, May 23, we hunted along shore, in the boat as usual, as far as the next point south of NW Point about six miles, the schooner keeping well off shore. At 10 AM., near the outlying rocks off this point, we found what seemed to be a male fur-seal, perhaps about four years old, asleep on the water with his fins held aloft in the manner so characteristic of these animals. I got a pretty fair shot with the rifle but missed. Half an hour later I shot a female fur-seal, killing it instantly. Before we could get the hook on it, it sank below our reach, although

only three boat-lengths away when shot. The water was perfectly clear and we could see the animal sinking when we reached the bloody spot on the water. It began to sink *immediately* when shot. With an extra long hook we might have reached it. We remained in the neighborhood for an hour, but no more seals were seen. While lying to with the vessel about two miles off this point the Captain saw two fur-seals from the vessel, but was powerless to try getting them. It was on the rocks at this point that Capt. Hunt had killed a pup fur-seal the year before (1891)."

In addition to his own observations Mr. Townsend collected from California sealers some very important information respecting the abundance of the Guadalupe fur-seal and the numbers killed in recent years. This may be summed up as follows:

In 1880 Capt. Geo. W. Chase, of San Diego, made several trips to Guadalupe for fur-seals, which he found "tightly packed in the caves and holes [in the rocks]." He generally fired at their eyes in the darkness of these places, but sometimes used candles. His skins sold for \$15 each, from which he made \$2,200 in 1880. The same man (Capt. Chase) stated that about a year earlier a Mr. Borges sold his catch of Guadalupe sealskins at San Francisco for over \$20,000 (the rate being \$10 to \$15 per skin).

In 1883 Capt. Geo. E. Wentworth killed about 2,000 fur-seals on Guadalupe. Captain Wentworth states that several other vessels were there at the same time, and that the Guadalupe fur-seal was practically [commercially] exterminated that year—1883.

In 1890 Capt. Nelson told Mr. Townsend that he had killed fur-seals with more or less regularity every year on the exposed shingle beach at the NW end of Guadalupe Island, where he pursued them into the caves and killed them with clubs.

In 1891 Geo. M. Hunt, of San Diego, visited Guadalupe in December for the purpose of sealing and killed 5 fur-seals—4 adults on the east side and one pup on the northwest side. A few others were seen off shore.

Recently I have compared the skulls collected at Guadalupe by Mr. Townsend with a series of skulls of *Arctocephalus australis* or *phillipi* from the Galapagos Islands, also collected by Mr. Townsend, and find the two to be very distinct species. In view of these facts it seems particularly appropriate that the new species should bear Mr. Townsend's name, which I take pleasure in bestowing upon it.

The material on which the new species is based consists of four

skulls picked up on the beach. One of these, the type, is an adult male which has lost the teeth and lower jaw. Another is a young adult female with both jaws and all the teeth. The remaining two are very imperfect, lacking both the jaws and face.

The species seems doomed to speedy extermination, and, so far as known, no museum in the world has a single specimen. It is hoped that our National Museum will be able to secure complete specimens before it is too late.

Arctocephalus townsendi sp. nov. Guadalupe Fur-seal.

Type locality.—Guadalupe Island, off Lower California. Type No. 83617, ♂ ad., U. S. National Museum. Collected on the beach on west side of Guadalupe May 22, 1892, by C. H. Townsend.

Cranial characters.—Contrasted with skulls of *Arctocephalus (australis or phillipi)* from the Galapagos Islands, skulls of *A. townsendi* differ in somewhat smaller size; much shorter rostrum; shorter nasals; larger and more freely open incisive foramina; heavier and shorter ascending branches of premaxillæ, which do not push backward along the nasals as in *australis*; smaller, flatter, and smoother audital bullæ; much narrower and more deeply excavated palate; narrower postpalatal notch; broader and heavier jugals; broader zygomatic processes of maxillæ, which are expanded to form a broad floor under the anterior half of the orbit; larger, broader, and more rounded anterior nares in the male, and absence of sagittal crest between frontals.

The most important characters are the exceedingly narrow and excavated palate, flat audital bullæ, short and thick ascending arm of premaxilla, and broadly expanded zygomatic root of maxilla, forming a floor under the anterior half of the orbit. There are also tooth characters: the first upper molar (5th molariform tooth) is mainly posterior to plane of anterior root of zygoma; both upper true molars are double rooted, and the last upper premolar is incompletely double rooted.

In the female of *townsendi* the narrow and deeply excavated form of the palate is even more emphasized than in the male, and the postorbital constriction is very much narrower than in the female of *australis*.

Measurements of ♂ Skull of Arctocephalus townsendi (the type).

Greatest basal length (gnathion to occipital condyles).....	256
Basal length (gnathion to basion).....	243
Basilar length of Hensel (basion to incisors)	233
Palatine length (gnathion to postpalatal notch).....	120
Postpalatal length (postpalatal notch to basion).....	125
Zygomatic breadth.....	151
Lateral series of teeth (canine to last molar inclusive).....	88
Distance between canines.....	22.5
Distance between 3d pair of molariform teeth	22.5
Breadth (anteroposterior) of zygomatic root of maxilla between inferior lip of antorbital foramen and orbit	21